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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,101	03/16/2001	Richard Ronald Hall	END920000087US1 (IEN-10-5)	8303

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EXAMINER

DINH, TUAN T

ART UNIT PAPER NUMBER

2827

DATE MAILED: 08/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/811,101

Applicant(s)

HALL ET AL.

Examiner

Tuan T Dinh

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 5-7 and 11-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 8-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's election without traverse of Group I (claims 1-4, and 8-10) in Paper No. 8 is acknowledged.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-4, and 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, lines 3-7, it is unclear. The phrase of "one or more active or passive devices...on the top or bottom surface" is not understood. Does applicant mean "one or more active or passive devices" mounted on a top or bottom, or an edge surfaces?

Regarding claim 8, lines 5-8, it is confuse. Applicant recites "an active or passive device" mounted on an edge surface (lines 5-6), and also, applicant further recites "at least one active or passive device" mounted on a top or a bottom surface (lines 7-8). Does applicant mean "an active or passive device" mounted on an edge surface, and "at least another active or passive device" mounted on a top or a bottom surface?

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Beilstein, Jr. et al. (reference cited by applicant).

As best understood to claim 1, Beilstein discloses an electronic sub assembly (30-figure 2, column 4, line 22) as shown in figures 2-5 comprising

a circuitized laminated substrate (module 32, column 4, line 23) having top and bottom surfaces (19, 17-figure 2, column 4, line 29), and at least one edge surface (21; 33, column 4, line 29, and column 6, line 37) between said top and bottom surfaces,

one or more active or passive devices (42, 38-figure 2) mounted on at least one of the top and bottom surfaces (19, 17),

a conductive lead (37-figure 3) embedded in the substrate (32) electrically connected to another active or passive device (70-figure 3) mounted on said at least one edge surface (33-figure 3), the conductive lead also electrically connected to at least one device on the top or bottom surface.

As to claim 2, Beilstein discloses the electronic sub assembly (30) as shown in figures 2-5 wherein each of the active or passive devices is selected from the group including chips (38, 42).

As to claim 3, Beilstein discloses the electronic sub assembly as shown in figures 2-5 further including an electrically conductive via (via 40, column 4, line 51, and via 44,

column 5, line 2) extending into the substrate from each device (38, 42) on the top or bottom surface (19, 17) into contact with a conductive lead connected to an edge mounted device.

As to claim 4, Beilstein discloses the electronic sub assembly (30) as shown in figures 2-5 wherein the laminated substrate is selected from the group comprising: a single or multiple laminates of a ceramic module and a conductive layer.

As best understood to claim 8, Beilstein discloses a printed circuit board (32) as shown in figures 2-5 having two spaced apart, generally parallel surfaces comprising

a top surface (19) and a bottom surface (17), an edge surface (21; 33) between said top and bottom surfaces,

a plurality of conductive leads (37-figure 3) embedded in the circuit board (30) parallel to the top and bottom surfaces (see figure 4-5) and terminating in one or more connection points along the edge surface (33),

an active or passive device (70) mounted on said edge surface and electrically joined through at least one of said connection points to at least one of the conductive leads, and at least another active or passive devices (38, 42) mounted on the top or bottom surface electrically joined to the edge mounted device.

As to claim 9, Beilstein discloses the printed circuit board (32) further including a via (36) on the top or bottom surface, and coupled to a top or bottom mounted device (see an interconnection of figure 2), said via extending into the substrate into contact with a conductive lead connected to said edge mounted device.

As to claim 10, Beilstein discloses the printed circuit board (32) wherein each said another active or passive device is selected from the group including chips.

### **Conclusion**

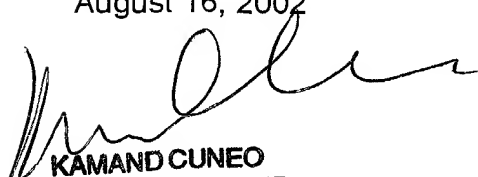
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Belanger et al., Liberkowski, and Beene et al. disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 703-306-5856. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-1341 for regular communications and 703-305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TD  
August 16, 2002

  
KAMAND CUNEO  
PRIMARY EXAMINER